

High Blood Pressure Response

The body can respond to high blood pressure (hypertension) in a variety of ways. One way is aortic release of atrial natriuretic peptide (ANP), which is a peptide hormone released directly from the heart in response to high blood pressure. It causes vasodilatory effects by directly triggering vasodilation in vascular smooth muscle cells and by inhibiting the effects of catecholamines. It also elevates levels of cGMP, which is part of the vasodilation pathway. ANP antagonizes aldosterone by inhibiting renin secretion and preventing activation of the renin-angiotensin-aldosterone pathway. It increases the filtration rate of the glomerulus resulting in a higher amount of sodium and water excreted.



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Characteristics

Atria Release Atrial Natriuretic Peptide

[A-tree Releasing Another A-tree with Natural-red Haired Man](#)

The atria, in response to stretching, release a peptide hormone called atrial natriuretic peptide (ANP), also known as ANH, and atriopeptin in response to high blood pressure.

Vasodilation

[Vase-dyed](#)

ANP causes vasodilation in vascular smooth muscle by inhibiting the effects of catecholamines and elevating levels of cGMP.

Antagonizes Aldosterone

[Ant-toga with Aldo-stereo](#)

ANP also antagonizes aldosterone by inhibiting renin secretion, which inhibits the renin-angiotensin-aldosterone system.

Na⁺ and Water Excreted

[Salt-shaker and Water pushed into Kidney](#)

ANP increases the filtration rate of the glomerulus, which results in a greater excretion of sodium and water.